

Appl. No. 10/551,089
In re Di Giacomo et al.
Reply to Office Action of Jun. 22, 2009

Amendments to the Drawings:

The attached sheet of drawings includes changes to Fig. 8. This sheet, which includes Figs. 6-8, replaces the original sheet including Figs. 6-8. In Fig. 8, the reference numeral 75 erroneously marking the curved tothing of the curved slot 75 is replaced with the correct reference numeral 76. No new matter has been added.

Attachment: Replacement Sheet

REMARKS/ARGUMENTS

The Examiner is thanked for the Official Action dated June 22, 2009. This amendment is intended to be fully responsive thereto.

The drawings were objected to because Fig. 8 shows two different parts both marked with the same reference numeral 75. Fig. 8 has been amended to replace the reference numeral 75 erroneously marking the curved toothings of the curved slot 75 with the correct reference numeral 76. No new matter has been added. Support for this amendment can be found in Fig. 6 and page 9, lines 27 – page 10, line 24 of the present application.

The drawings were further objected to because the reference numeral 69 in Figs. 7 and 9 is not mentioned in the specification. The specification has been amended to overcome this objection. No new matter has been added. Support for this amendment can be found in Figs. 7-9 of the present application.

Claim 5 has been amended to better recite the patentably distinguishing subject matter in the claim for clarity reasons. Specifically, claim 5 has been amended to specify that the movable supporting member (15) comprises a connecting portion (20) disposed opposite to an end portion (18) supporting the drive wheel (16), and connected to said mechanical drive to move the supporting member (15) along a circular trajectory. Support for this amendment could be found in Figs. 6-9 of the present application. No new matter has been added.

Claims 1, 4-16 and 22-26 have been amended to correct minor informalities. No new matter has been added.

Claims 1, 4-8 and 22-26 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Webb (US 4,822,321) in view of Barrett (US 2,823,546) and further in view of Temma et al. (US Pat Pub. 2002/0183149) . Applicant respectfully disagrees. However, in order to expedite the prosecution of the present application, claim 1 has been amended to better recite the patentably distinguishing subject matter in the claim for clarity reasons. The antecedent basis for this amendment could be found in page 6, lines 24-25 and page 7, lines 3-8 of the present application. No new matter has been added.

The presently claimed drive assembly is an automated assembly comprising an electric motor controlling the position of the idle driving wheel, whereby the drive assembly can be controlled by an engine control unit of a motor vehicle. Specifically, the invention comprises an actuating means (81) which can be activated to exert a force in opposition to that force exerted by the elastic means (e.g. torsion spring 30), to detach the drive wheel (16) from at least one of the rotary member (e.g., pulley 10) and the drive member (e.g., drive belt 5). As claimed, the actuating means comprise a reversible electric motor (81) such that, when the elastic means (torsion spring 30) exerts a force, to push the drive wheel (16) against the rotary member (pulley 10) and the drive member (5), which is greater than the travel resistance of the actuating means (e.g. electric motor 81) when maintained in a disabled rest condition, the force overcomes the resistance of the electrical rotary motor.

The Examiner erroneously interprets the drive pulley 58 of the water pump 24 of Webb as a drive wheel fitted idly to the arm 46. The Examiner's interpretation of the claim is not consistent with the specification and contradicts the plain meaning of the words of the claim 1. Moreover, the examiner's interpretation of the claims is not consistent with the interpretation that those skilled in the art would reach. Specifically, the word "idle pulley" or "idle wheel" is defined by the Dictionary of Mechanical Engineering (1996 G.H.F. Naylor Fourth Edition) as a) a wheel (or pulley) introduced in a gear train either to reverse rotation or

to fill up a gap in the spacing of centers, without affecting the drive ration; and b) an intermediate wheel. Moreover, those skilled in the art would know that the idler, or the idle wheel or the idle pulley, is a non-powered wheel for guiding and support (see also the Dictionary of Automotive Engineering (Second Edition 1995 by Don Goodsell, CEng, MIMechE, MSAE, Society of Automotive Engineers, Inc., Warrendale, PA). Thus, Webb fails to disclose the drive wheel fitted idly to the movable supporting member.

Moreover, Webb fails to disclose the elastic means exerting a force on the movable supporting member so that the drive wheel drivingly contacts the rotary member and a drive member powered by the combustion engine to drive the rotary member. As clearly illustrated in Figs. 1-3 of Webb, the drive pulley 58 is spaced from the pulley of the air pump 18 (interpreted by the Examiner as the rotary member of the pump), not drivingly contacting the rotary member as recited in claim 1. In other words, the drive pulley 58 of Webb drivingly contacts only the belt 20 (the drive member), while the drive wheel of claim 1 drivingly contacts both the rotary member and the drive member.

The Examiner concedes that Webb fails to disclose actuating means provided to exert a force in opposition to that exerted by the elastic means to detach the drive wheel from at least one of the rotary member and the drive member, wherein the actuating means comprises a reversible electric motor such that a force exerted by the elastic means to push the drive wheel against the rotary member and the drive member is greater than the travel resistance of the actuating means when maintained in a disabled rest condition.

The Examiner then alleges that Barrett discloses actuating means 1 that can be activated to exert a force in addition to that exerted by the elastic means 16 to bring a wheel 13 in contact with the rotary member 20, and that the spring 16 exerts a force to the rotary member 20. The Examiner further alleges that it would have been obvious to one of ordinary skill in the art to modify the assembly of Webb to include the actuating means as taught by

Barrett "in order to ensure a firm driving contact". It appears that the Examiner proposes to replace the spring unit 54 and the drive pulley 58 of the water pump 24 of Webb with the coupling of Barrett including the starter motor 1, the rubber roller 13 and the spring 16.

First, Barrett teaches the automatic coupling for a starter motor, while Webb discloses a combined belt tensioner/water pump. Examiner's modification of Webb in view of Barrett is improper because in order to rely on a reference as a basis for rejection of an applicant's invention, the reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned. In other words, to rely on the reference under 35 U.S.C. 103, it must be analogous prior art. MPEP 2141.01(a). In re Oetiker, 977 F.2d 1443, 1446, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992). Clearly, Barrett that discloses the automatic coupling for a starter motor is not analogous to the claimed invention that recites the drive assembly for a water pump and Webb that teaches the combined belt tensioner/water pump.

Second, those skilled in the art would readily realize that Webb and Barrett disclose significantly different types of devices which cannot be combined as the principles of operation thereof are considerably different. Combination of prior art with different principles of operation is impermissible. See MPEP 2143.01.VI. It should be noted that claim 1 requires that the force exerted by the motor is in opposition to that exerted by the elastic means to detach the drive wheel from at least one of the rotary member and the drive member. Contrary to the present invention, the actuation of the starter motor 1 of Barrett engages the rubber roller with the flywheel 20. Therefore, Barrett teaches away from the present invention as claimed. Moreover, the actuating means of Barrett in the context of Webb would simply not work. In fact, Barrett teaches to automatically couple a drive wheel to an electric motor when the motor is started, and automatically decouple the drive wheel from the electric motor when the latter is stopped. Therefore, if this actuator was applied to pulley 58 in Webb,

when the motor is energized the pulley (already coupled to belt 20) would be coupled to the motor as well, which is a technical nonsense and would cause immediate failure of the transmission. Clearly, the modification of Webb in view of Barrett is improper because the "suggested combination of references would require a substantial reconstruction and redesign of the elements shown in [the primary reference] as well as a change in the basic principle under which the [primary reference] construction was designed to operate." 270 F.2d at 813, 123 USPQ at 352.).

Third, as stated in the Supreme Court decision of *KSR Int'l Co. v. Teleflex Inc.*: "patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art. Although common sense directs one to look with care at a patent application that claims as innovation the combination of two known devices according to their established functions, it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does. This is so because inventions in most, if not all, instances rely upon building blocks long since uncovered, and claimed discoveries almost of necessity will be combinations of what, in some sense, is already known." (emphasis added). *KSR v. Teleflex*, 550 U.S. ____, 127 S. Ct. 1727, 82 U.S.P.Q.2d 1385 (2007). The Examiner alleges that the reason to modify the assembly of Webb to include the actuating means of Barrett is "to ensure a firm driving contact". However, Webb already discloses "a firm driving contact", since the "drive pulley rim 60 is continually pushed by spring-damper unit 54 into a run of fan belt 20, maintaining it under a continual tension" (see col. 3, lines 48-51 of Webb). Therefore, the actuating means of Barrett in this context would be absolutely ineffective and inadequate. Clearly, the prior art provides no logical reason, suggestion or motivation to combine teachings of Webb and Barrett.

Fourth, the actuating means (1) of Barrett are coincident with the power source, i.e. are constituted by the same motor that has to be coupled to the rotary member (20). Therefore, once the motor (1) is started, it is automatically coupled with the rotary member (20); therefore, no actuating means in the meaning of the present invention as claimed are disclosed at all, because the electric motor of Barrett is not used as an actuator. Thus, the combination of Webb and Barrett is simply improper and illogical.

The Examiner further concedes that the combination of Webb and Barrett fails to disclose actuating means provided to exert a force in opposition to that exerted by the elastic means to detach the drive wheel from at least one of the rotary member and the drive member, and a reversible electric motor such that a force exerted by the elastic means to push the drive wheel against the rotary member and the drive member is greater than the travel resistance of the actuating means when maintained in a disabled rest condition. The Examiner then alleges that Temma discloses an electric motor 55 that can be activated to exert a force in opposition to that exerted by the elastic means 54 to detach the drive wheel (51) from the drive member (15).

Temma refers to a tensioner 50 for tensioning the belt of a stepless speed change unit (see figures 3 - 5). The tensioner 50 of Temma includes a pulley 51 that is permanently maintained by a spring 54 in contact with the belt 15. Motor 55 has only the function of increasing or decreasing the belt tension as a function of torque or transmission ratio (see paragraphs (0064) and (0067)). Therefore, this reference does not anticipate the feature that the actuating means can be activated to detach the drive wheel from at least one of the rotary member and the drive member. In particular, paragraph [0064] clearly states that "the aforementioned spring 54 supplies initial tension. The assist motor is normally or reversely driven for adding or subtracting tension caused by the assist motor 55 to or from the initial tension so that the optimum belt tension can be obtained" (emphases added). Thus, Temma

clearly discloses that the pulley 51 is continually pushed by spring 54 to maintain the belt 15 under constant tension and the drive wheel (51) is never detached from the belt 15. Therefore, contrary to the Examiner's allegations, those skilled in the art would readily realize that the wheel 51 is always kept in contact with belt 15 and that the electric motor 55 only modulates the belt tension. If wheel 51 was detached from belt 15, it would not perform its technical function, i.e. to ensure the desired belt tension. MPEP 2143.01(V) expressly states that a proposed modification of a prior art invention cannot render that invention "unsatisfactory for its intended purpose."

Therefore, even if the combination of Webb and Barrett and Temma suggested by the Examiner could be made, the resulting drive assembly still would lack the elastic means exerting a force on the movable supporting member so that the drive wheel drivingly contacts the rotary member and a drive member powered by the combustion engine to drive the rotary member, and the actuating means provided to exert a force in opposition to that exerted by the elastic means to detach the drive wheel from at least one of the rotary member and the drive member, wherein the actuating means comprise a reversible electric motor such that a force exerted by the elastic means (30) to push the drive wheel (16) against the rotary member and the drive member is greater than the travel resistance of the actuating means when maintained in a disabled rest condition.

Since several significant features of claim 1 are not disclosed in any of the cited references, the rejection of claims 1, 4-8 and 22-26 under 35 U.S.C. 103(a) over Webb and Barrett and Temma is improper.

Claim 9 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Webb in view of Barrett, further in view of Temma and further in view of Floehr (USP 3,157,132). Applicant respectfully disagrees.

First, claim 9 depends upon the base claim 1, thus all the arguments regarding the patentability of claim 1 are equally applicable to claim 9.

Secondly, MPEP 2141.01(a) specifically states that in order to rely on a reference as a basis for rejection of an applicant's invention under 35 U.S.C. 103, the reference must be in the field of applicant's endeavor or be reasonably pertinent, i.e. it must be analogous prior art. Floehr discloses a hopper door pivot and latch assembly (Class 105: RAILWAY ROLLING STOCK, and class 16: MISCELLANEOUS HARDWARE (E.G., BUSHING, CARPET FASTENER, CASTER, DOOR CLOSER, PANEL HANGER, ATTACHABLE OR ADJUNCT HANDLE, HINGE, WINDOW SASH BALANCE, ETC.)). Thus, since Floehr has different purpose and structure, it is in the different field of endeavor, and is not reasonably pertinent, it is non-analogous and cannot be used as a teaching against the present invention.

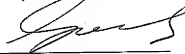
Claims 10, 11, 15 and 16 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Webb in view of Barrett, further in view of Temma, further in view of Floehr, and further in view of Bakker (USP 5,967,919). Applicant respectfully disagrees. Claims 10, 11, 15 and 16 depend upon the base claim 1, thus all the arguments regarding the patentability of claim 1 are equally applicable to claims 10, 11, 15 and 16.

The Examiner further noted that claims 12-14 were objected to as being dependent upon the rejected base claim 1, but would be allowable if rewritten in independent form including all the limitation of the base claim and any intervening claims. Accordingly, claim 12 has been rewritten in independent form including all the limitation of the base claim 1 and the intervening claims 4-10. Therefore, claims 12-14 define the present invention over the prior art and are in condition for allowance.

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For the foregoing reason, it is respectfully submitted that the pending claims are in condition for allowance, and notice to that effect is earnestly solicited. Should the Examiner believe further discussion regarding the above claim language would expedite prosecution they are invited to contact the undersigned at the number listed below.

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